

## ABSTRACT OF THE DISCLOSURE

A straight rod form discharge electrode used in a wire bonding apparatus. The electrode core material is covered, except for its tip end, by an alumina film that has been subjected to a pore sealing treatment. The alumina film subjected to the pore sealing treatment is formed by a two-stage process. In the first-stage, an alumina film having a porous structure is formed on the surface of the electrode core material for the thickness of approximately 6  $\mu\text{m}$  by plasma flame coating method or anodic oxidation method; and in the second-stage, the porous structure is subjected to a pore sealing treatment in which an alumina film is caused to adhere to the porous structure by laser PVD or a pore sealing treatment is performed with a resin.